

REMARKS

This application has been reviewed in light of the Final Office Action dated May 30, 2003. Claims 1-37 are pending in this application. Claim 33 has been amended to correct a typographical error. Claims 1, 11, and 19, which are the independent claims, have been amended to define still more clearly what Applicants regard as their invention. No new matter has been added. Favorable reconsideration is requested.

Claims 1-3, 7, 8, 10, 11, 15, 16, 18, 19, 22, 27, 28, and 30-33 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,066,883 (Yoshioka et al.).

In addition, Claims 4, 6, 12-14, 17, 20, 21, and 23-26 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,066,883 (Yoshioka). Claims 29 and 34 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,066,883 (Yoshioka) in view of U.S. Patent No. 6,420,825 (Shinjo et al.). And, Claims 35-37 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,420,825 (Shinjo et al.) in view of U.S. Patent No. 5,066,883 (Yoshioka).

In the present invention, as exemplified in Figs. 1 and 2b, first insulating layer 6 contains metallic oxide particles 8, and is situated between substrate 1 and second insulating layer 7. Elements constituting an electron-emitting device are disposed on a surface of the second insulating layer 7. The metallic oxide particles 8 contained within the first insulating layer 6 are not part of those elements of the electron-emitting device. Instead, the first insulating layer 6 and metallic oxide particles 8 constitute part of a substrate structure which in its original form is a precursor to an electron source, and on

which the electron-emitting device of the electron source is to be disposed.

As amended, Claim 1 is directed to a substrate structure which is a precursor to an electron source. The structure comprises a substrate and an insulating material film provided on the substrate. The insulating material film includes a metallic oxide and has a vacancy, and the insulating material film has a surface on which an electron-emitting device of the electron source is to be disposed.

As described in the Amendment filed on January 27, 2003, Yoshioka et al. relates to an electron-emitting device which includes a laminate having an insulating layer held between a pair of electrodes opposing each other. An electron-emitting region insulated from the electrodes is formed at a side end surface of the insulating layer formed at a part at which the electrodes oppose each other, and electrons are emitted from the electron-emitting region by applying a voltage between the electrodes.

In the present Office Action, Yoshioka et al. is cited for allegedly disclosing "an electron source forming substrate [4] comprising an insulating material film [11] provided on a substrate surface where an electron-emitting device is arranged, wherein said insulating material film contains a plurality of metallic oxide particles [9] and vacancy [portions around the particles, see figure 8-10] are provided among said plurality of metallic oxide particles." As exemplified in Figs. 8-10 of Yoshioka et al., the metallic oxide particles 9 and insulating layer 11 constitute part of the electron-emitting device.

Claim 1, on the other hand, recites a substrate structure that is a *precursor* to an electron source. The substrate structure is comprised of a substrate and an insulating material film provided on the substrate, wherein the insulating material film includes a metallic oxide and has a vacancy. The insulating material film has a surface on which an electron-emitting device of the electron source is to be disposed. Applicants respectfully submit that Yoshioka et al. does not teach or suggest a substrate structure that is a

precursor to an electron source, and on which an electron-emitting device is to be disposed, having features as recited in Claim 1.

For this reason, Claim 1 is believed patentably distinguishable over Yoshioka et al.

Amended Claim 11 recites features that are similar in many respects to those of Claim 1, and is also believed to be patentable over Yoshioka et al. for at least the same reasons as those discussed above in connection with independent Claim 1.

Claim 19, as now amended, is directed to a substrate structure which is a precursor to an electron source. The structure comprises a substrate, a metallic oxide particle layer including a plurality of metallic oxide particles provided on the substrate, and an insulating material film provided on the metallic oxide particle layer. The metallic oxide particle layer has a vacancy, and the insulating material film has a surface on which an electron-emitting device of the electron source is to be disposed.

For the same reasons as those given above for Claim 1, Applicants respectfully submit that Yoshioka et al. does not teach or suggest a substrate structure having such features, wherein the substrate structure is a precursor of an electron source.

Accordingly, Claim 19 also is believed patentably distinguishable over Yoshioka et al.

Shinjo et al. and the other art of record do not, in Applicants' opinion, teach or suggest anything which would remedy the above-noted deficiencies of Yoshioka et al. Accordingly, Claims 1, 11, and 19 are believed patentable over the art of record.

The other claims in this application are each dependent from Claims 1, 11, or 19 discussed above and are therefore also believed patentable for the same reasons as are

those corresponding independent claims.¹ Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of each dependent claim on its own merits is respectfully requested.

This Amendment After Final Action is believed clearly to place this application in condition for allowance and, therefore, its entry is believed proper under 37 C.F.R. § 1.116. The scope of the claims is believed to be substantially similar to that of the claims pending prior to this Amendment. Accordingly, entry of this Amendment After Final Action, as an earnest effort to advance prosecution and reduce the number of issues, is respectfully requested. Should the Examiner believe that issues remain outstanding, it is respectfully requested that the Examiner contact Applicants' undersigned attorney in an effort to resolve such issues and advance the case to issue.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and the allowance of the present application.

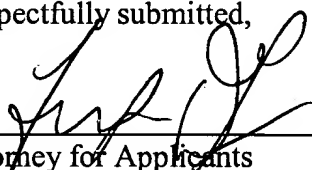
No petition to extend the time for response to the Office Action is deemed necessary for the present Amendment. If, however, such a petition is required to make this Amendment timely filed, then this paper should be considered such a petition and the Commissioner is authorized to charge the requisite petition fee to Deposit Account 06-1205.

¹/ Applicants again submit that, although Claims 35-37 were rejected over *Shinjo et al.* in view of *Yoshioka et al.*, where *Shinjo et al.* apparently is the primary reference against those claims, Claims 35-37 depend from independent claims which were not rejected over *Shinjo et al.* Accordingly, it is believed the rejection of Claims 35-37 based on the primary reference *Shinjo et al.* is improper without a corresponding rejection of the independent claims based on that same reference. Accordingly, withdrawal of the rejection of Claims 35-37 is respectfully requested.

If the Examiner refuses to withdraw this rejection in a next office action, he is respectfully requested to explain how the rejection can be maintained with *Shinjo et al.* as the primary reference where no independent claim has been rejected based on that reference.

Applicants' undersigned attorney may be reached in our New York Office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,



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